Remarks

Claims 1-34 were pending and rejected. Claims 1-34 are cancelled by this amendment. Claims 35-46 are added by this amendment. Applicant respectfully requests allowance of claims 35-46.

Claims 1-34 were objected to for an informality in claim 1. Claim 1 has been cancelled and the objection may be withdrawn.

Claims 1-34 were rejected under 35 U.S.C. §103(a) over U.S. Patent 5,600,648 (Furuta) in view of U.S. Patent 5,159,595 (Flanagan). This rejection will be discussed in light of new claims 35-46. Prior to a discussion of the new claims, a brief overview of well-known SONET overhead processing is provided with respect to figures 1-2, which are included at the end of this amendment.

Figure 1 illustrates SONET frame 100. SONET frame 100 includes transport overhead 101 and synchronous payload envelope 102. Transport overhead 101 includes section overhead 103 and line overhead 104. Synchronous payload envelope 102 includes path overhead 105 and user data 106.

SONET overhead *termination* is the interpretation and processing of incoming overhead information and the generation and transfer of new outgoing overhead information. (See the present Application, page 5, lines 25-31). Thus, when section overhead information is terminated, the incoming section overhead information is processed and replaced with new outgoing section overhead information. Likewise, when line overhead information is terminated, the incoming line overhead information is processed and replaced with new outgoing line overhead information.

FIG. 2 illustrates communication system 200. Source node 201 and destination node 207 terminate the path overhead information in the SONET frames. Thus, source node 201 and destination 207 have their own end-to-end path overhead channel. (Furuta would allow intermediate nodes 202-206 to analyze this path overhead information). Nodes 201, 202, 206, and 207 terminate the line overhead in the SONET frames. Thus, the ADM nodes 202 and 206 share a line overhead channel with one another and respectively with source node 201 and destination node 207. All nodes 201-207 terminate the section overhead in the SONET frames. Thus, the all nodes 201-207 share section overhead channels with their neighbor nodes.

In operation, source node 201 transfers SONET frames to ADM node 202. ADM node 202 terminates the line and section overhead and transfers corresponding SONET frames to repeater node 203 that have a different line and section overhead than the SONET frames received by ADM node 202. Repeater node 203 terminates the section overhead and transfers corresponding SONET frames to repeater node 204 that have a different section overhead than the SONET frames received by repeater node 203. Repeater node 204 terminates the section overhead and transfers corresponding SONET frames to repeater node 205 that have a different section overhead than the SONET frames received by repeater node 204. Repeater node 205 terminates the section overhead and transfers corresponding SONET frames to ADM node 206 that have a different section overhead than the SONET frames received by repeater node 205. ADM node 206 terminates the line and section overhead and transfers corresponding SONET frames to destination node 207 that have a different line and section overhead than the SONET frames received by ADM node 206.

Note that the SONET frames transferred by source node 201 differ from the SONET frames received by destination node 207 because the line and section overhead are *terminated* in transit. Thus, the line and section overhead information has been processed and replaced multiple times by nodes 202-206.

The above overview of SONET overhead processing is well-known to those skilled in the art.

Consider a situation where source node 201 and destination node 207 are in a first carrier network, but nodes 202-206 are in a second carrier network. The first carrier network (nodes 201, 207) may use the second carrier network (nodes 202-206) to connect source node 201 to source node 207. Unfortunately, nodes 202-206 alter the line and section overhead between source node 201and destination node 207. This overhead alteration may not be desirable to the first carrier network, especially if the second carrier network is being used to close a SONET ring for the first carrier network.

The claimed invention helps solve this problem, and this solution is clearly not taught by the cited references.

The new claims 35-40 require that the *terminated* line and section overhead information be transferred, so advantageously, the *terminated* line and section overhead

information can be re-used by a downstream node. Referring to figure 2 included herein, the claimed invention would allow the original line and section overhead information that is transferred by node 201 to be received by node 207. In the prior art, node 202 would terminate (replace) this original line and section overhead information, but would NOT transfer the terminated line and section overhead information. Thus, the terminated line and section overhead information would be lost to node 207.

Furuta teaches a technique for inspecting the path overhead information at intermediate nodes between the source and destination. In FIGS. 12-13 of Furuta, Furuta teaches the technique of multiplexing multiple low-speed SDH signals into a high-speed SDH signal. Furuta clearly does not teach the transfer of ***terminated*** overhead information.

Likewise, Flanagan does not teach the transfer of *terminated* overhead information.

The above remarks also apply to the transfer of terminated SDH overhead information as required by claims 41-46.

Applicants submit that there are numerous additional reasons in support of patentability, but that such reasons are moot in light of the above remarks and are omitted in the interests of brevity. Applicants respectfully request allowance of claims 1-34.

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